Abstract

The present invention relates to a proton-conducting polymer membrane which is based on polyvinylsulphonic acid and is obtainable by a process comprising the steps

A) mixing of a polymer with vinyl-containing sulphonic acid,

B) formation of a flat structure using the mixture from step A) on a support,

C) polymerization of the vinylsulphonic acid present in the flat structure from step B).

Owing to its excellent chemical and thermal properties, a membrane according to the invention can be used in a wide variety of applications and is particularly useful as polymer electrolyte membrane (PEM) in PEM fuel cells.